

European Patent Office  
D-80298 Munich  
Germany

■ KØBENHAVN  
Banegårdspladsen 1  
Postboks 362  
DK-1570 København V  
Tlf.: 33 13 09 30  
Fax:  
+45 33 13 09 34 (Pat.)  
+45 33 13 09 38 (TM)  
www.lbpatent.dk  
E-mail: adm@lbpatent.dk

AALBORG  
Kjellerupsgade 6A  
DK-9000 Aalborg  
Tel.: 98 15 40 35  
Fax: +45 98 11 11 02

MÜNCHEN  
Steinsdorfstrasse 20  
D-80538 München  
Tel.: +49 89 2916 9834  
Fax: +49 89 2916 9835

Hans Ole Larsen\*  
Preben Lund\*  
Ole Vangshardt\*  
Lilli Christensen\*  
Ole Jagtboe  
Carsten S. Poulsen\*  
Doris Holch  
Susanne Breum  
Vibeke Rønn  
Lone Ipsen  
Ole Struve

\*Europæisk Patentagent  
European Patent Attorney

°European Trade Mark  
Attorney

Our ref.: 17942 PCT - OJA

■ February 14, 2006

Re: Comments to the amendments in PCT/DK2004/000642

Dear Madam or Sir:

We have the following comments to the amendments to the above-mentioned PCT application entering the regional phase before the EPO.

In claim 1, the sentence "said master station or stations having an identification cell with an identification key" has been deleted in order to express that the invention relates to the communications unit.

The difference between the coupling according to claim 1 of the present invention and the coupling according to D1 is that the coupling between the communications unit and the master stations is automatic and does not require any action by a user, whereas according to D1, a user must enter a PIN code or the like from the master station in order to gain access to the communications unit.

The problem solved by the invention may be regarded as a way of allowing a coupling between **preselected** communications units and master stations.

This problem is not solved in D1, since any master station can be coupled to a communications unit, provided a PIN code or the like is entered from the master station.

As appears from the enclosed manuscript, clarification issues raised by the Examiner in the PCT phase have been remedied, including deletion of the numeral 12 in fig. 2.

Yours faithfully,  
**LARSEN & BIRKEHOLM A/S**  
*Skandinavisk Patentbureau*

Ole Jagtboe

Encl.:  
Amended description and claims  
Drawing  
Manuscript

AP20

MAR 2006

Manuscript

1

5 The invention relates to a communications unit constructed as a slave station which is adapted to be coupled to a plurality of master stations via a wireless connection, said communications unit having a memory with a plurality of address fields in which one or more identification keys may be stored, (said master station or stations having an identification cell with an identification key,) wherein a coupling is established between one of the master stations and the communications unit in that the identification key of the master station is stored in one of the address fields of the communications unit.

10

The system principles of a network including a headset as mentioned above are described e.g. in the published US Patent Application No. 2002/0061009 A1.

15

Today, many mobile telephones use headsets in connection with a call and an answer to a call, as the user of the mobile telephone may hereby have his or hers hands free for other tasks during a call, which may be e.g. be the operation of a PC.

20

Previously, the headset was connected to the mobile telephone via a wire, but after the provision of short-ranged communications connections it has become widespread practice to use these instead of a wired connection.

25

The two most widely used wireless connections are the so-called Bluetooth and DECT standards, where Bluetooth has a range of about 10 metres, while the DECT standard has a range of about 150 metres.

30

Known today are also wireless communications connections between public switched telephones and headsets, where the wireless connections are likewise based on Bluetooth and DECT.

play is presumably that mobile telephones are equipped with more sophisticated call options and provide easier access to telephone numbers, as they are easy to store and find in the mobile telephone.

- 5 US 2002/0090912 discloses piconet networks in which a user having a communications unit can enter a PIN code in order to be coupled to a group of master stations, provided that the master stations have a matching PIN code. This means that any communications device that is able to transmit the PIN code can be coupled to the master stations.

10

In the light of this, it is desirable to be able to design a telephone system where all the advantages of the mobile telephone are incorporated, and where calls from the public switched telephone become a more natural act, while maintaining the same comfort.

15

The object of the invention is achieved by a headset of the type defined in the introductory portion of claim 1, which is characterized in that at least one of the address fields of the communications unit is configured with ~~an~~ <sup>add</sup> address field and an associated electrical lock, and that the address field may be overwritten only if a certain master station of the plurality of master stations has a unique identification key to open the electrical lock.

20

Hereby, it is possible to establish an automatic coupling between the communications unit and the master station, as the address field in the communications unit is hereby reserved to be coupled only to a communications unit which has the unique identification key. In other words, only master stations that can unlock the electrical lock in the communications device can be coupled to the communications device.

25

- 30 When, as stated in claim 2, the fixed address field is predefined to be coupled only to specific master stations, it is advantageously ensured that

only selected master stations having the unique identification key may be coupled to the communications unit.

5 Expediently, as stated in claim 3, the coupling is established with a short-ranged communications connection of the Bluetooth type or of the DECT type, and additionally it is user-friendly if, as stated in claim 4, the communications unit is a headset.

10 With a view to adapting a master station with an identification cell to a communications unit with as few electrical changes in the master station as possible, it is an advantage if, as stated in claim 5, the master station is an adapter master station having a unique identification key, and that the adapter master station is coupled, optionally wirelessly, (to the other master station, preferably) to a public switched telephone. *1104*

15 It is an advantage to a user wishing to make call, e.g. by activating a button on the headset, if, as stated in claim 6, the adapter master station emits indication signals to the communications unit, allowing it be verified in the communications unit, e.g. via sound emission, whether it may be connected  
20 to the adapter master station, and if so a prioritized connection to the adapter master station is provided.

This advantage is particularly pronounced if, as stated in claim 7, the master station is a public switched telephone, a mobile telephone or the like.

25 To improve the user's comfort when connections are established to various master stations, it is an advantage if, as stated in claim 8, the adapter master station has a volume control unit to adjust the strength of a signal between the communications unit and a master station, e.g. a public  
30 switched telephone, relative to the strength of the signal between the headset and another master station, e.g. a mobile telephone.

## 7

In the case where all address fields in the headset, typically eight in number, are used, a request for coupling to a further master station will mean that one of them, e.g. the oldest address field, is overwritten.

5 If also a speech recognition circuit is connected to transfer commands from the headset to the mobile telephone, it is moreover possible to make a call from the headset without it being necessary to operate the mobile telephone.

10 The above-mentioned fixed address field 9 is used for interconnecting a headset and a master station which has a unique identification key, said fixed address field having an associated electrical lock which can only be opened by a unique identification key. In other words, only a master station having a unique identification key will be able to store its address in the  
[ ] 15 [adapter master station 4]. Thus, the address field 9 cannot be overwritten without the electrical lock having been opened.

headset 7

20 The adapter master station may generally be equipped with a circuit (not shown) which emits indication signals, shown schematically at 13, which can be captured by the headset, which can in turn apply a sound signal to a user who will then be made aware that it is possible to use the public switched telephone when making a call or answering a call. Optionally, the sound signal may just be emitted when the user enters or leaves the coverage area of the communications connection between the adapter master  
25 station and the headset.

30 Additionally, the adapter master station 4 may be equipped with a volume control, indicated by the reference numeral 14, which allows a user to adapt the volume from the public switched telephone 3 to the same level as the volume from the mobile telephone 2, as the user just makes a couple of calls, partly on the public switched telephone and partly on the mobile tele-

phone until the volume from the two telephones has been adjusted to be the same.

As shown in fig. 1, the master station may be a public switched telephone 3 which may be coupled to the headset through its identification key, and since the identification key may be stored in the headset, the connection to the headset may be established merely by the user moving into an area in which the short-ranged communications connection may be established.

Where appropriate, the headset may be adapted to apply a signal to the user when the communications connection has been established, so that the user is aware of the coupling to an alternative connection which the user himself has not set up.

The adapter master station 4 is a unit having an input and an output, said input being a wireless communications gate which is adapted to communicate with the headset 1 via a short-ranged communications connection 12. The output is shown here as a wired connection 7 coupled to a public switched telephone 3.

Optionally, an electrical or mechanical lifting mechanism is provided for the public switched telephone, so that the receiver 10 may be lifted off without the user himself having to do this physically.

Fig. 2 shows a setup with physical communications units connected as described in connection with the principles which have been described in connection with fig. 1.

As will be seen in fig. 2, the headset 1, the mobile telephone 2, the public switched telephone 3 with the receiver 10, and the adapter master station 4 are included. The headset 1 is arranged in the adapter master station 4,

## PATENT CLAIMS

1. A communications unit (1) constructed as a slave station which is adapted to be coupled to a plurality of master stations (2, <sup>11</sup>3) via a wireless connection, said communications unit having a memory with a plurality of address fields in which one or more identification keys may be stored, <sup>5</sup> said master station or stations having an identification cell with an identification key, wherein a coupling is established between one of the master stations and the communications unit in that <sup>(1)</sup>the identification key of the master station is stored in one of the address fields of the communications unit, <sup>10</sup> characterized in that at least one of the address fields of the communications unit is configured with <sup>+ fixed</sup> an address field and an associated electrical lock, and that the address field may be overwritten only if a certain master station of the plurality of master stations has a unique identification <sup>15</sup> key to open the electrical lock.

2. A communications unit according to claim 1, characterized in that the <sup>20</sup> fixed address field is predefined to be coupled only to specific master stations.

3. A communications unit according to claims 1 – 2, characterized in that the coupling is established with a short-ranged communications connection of the Bluetooth type or the DECT type.

25 4. A communications connection according to claims 1 – 3, characterized in that the communications unit is a headset.

30 5. A communications unit according to claims 1 – 4, characterized in that the master station is an adapter master station having a unique identification key, and that the adapter master station is coupled, optionally wirelessly, <sup>[ ] all</sup> to another master station, preferably to a public switched tele-

12

phone.

- 5 6. A communications unit according to claim 5, characterized in that the adapter master station emits indication signals to the communications unit, allowing it to be verified in the communications unit, e.g. via sound emission, whether it may be coupled to the adapter master station, and if so a prioritized connection to the adapter master station is provided.
- 10 7. A communications connection according to claims 1 – 6, characterized in that the master station is a public switched telephone, a mobile telephone [an IP coupling] or the like. [Jdy]
- 15 8. A communications unit according to claims 5 – 7, characterized in that the adapter master station has a volume control unit to adjust the strength of a signal between the communications unit and a master station, e.g. a public switched telephone, relative to the strength of the signal between the headset and another master station, e.g. a mobile telephone.
- 20 9. A communications unit according to claims 5 – 8, characterized in that the adapter master station has an electrical circuit or a mechanical structure adapted to lift or hang-up the receiver of the public switched telephone.
- 25 10. A communications unit according to claims 5 – 9, characterized in that the adapter master station emits a special sound at a call.
- 30 11. A communications unit according to claims 5 – 10, characterized in that the adapter master station has a charging unit to charge the headset.



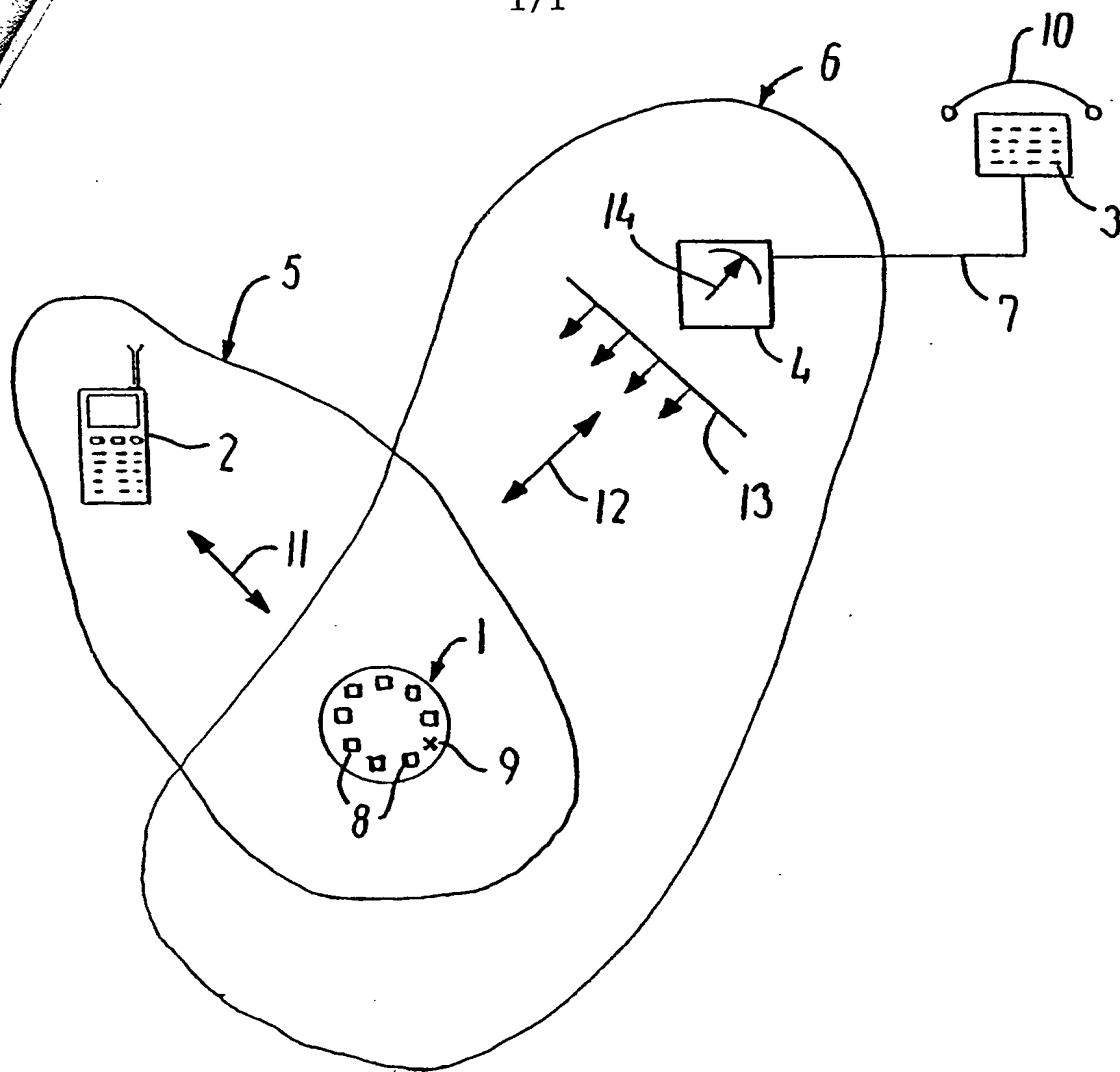


FIG. 1

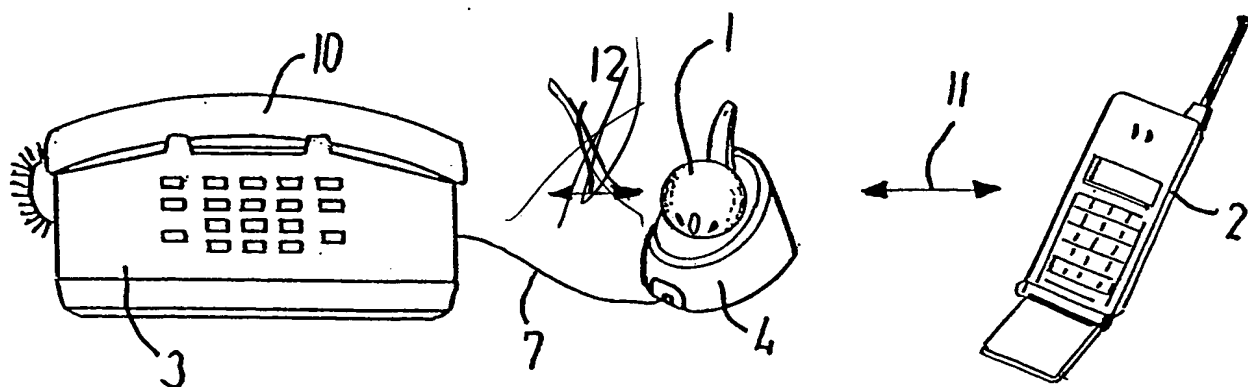


FIG. 2